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Seed Treatment of Cereal, Oilseed and Pulse Crops - 1990

The recommendations in this publication supersede all previous ones.

Purpose of seed treatment

Seed treatment provides economical insurance against many diseases and some insect pests of seed and seedlings. Chemical treatment can give seedlings a head start by preventing or reducing damage resulting from certain crop pests.

Diseases are controlled by contact fungicides that destroy fungi carried on the seed, such as common bunt of wheat, the surface-borne smuts of barley and oats, and some leaf-spotting and seed decay fungi. Systemic fungicides destroy fungi carried in the seed, such as loose smut of wheat and barley, and protect the early growth of the seedling.

It is specifically recommended that:

- Rye and flax should be treated since they are very susceptible to seed decay.
- Winter wheat should be treated to prevent bunt, seed decay and promote good seedling growth.
- If bunt or smut was observed in a crop which will be used for seed, the grain should be treated. If a variety is grown that is susceptible to bunt or smut and the presence of the disease is uncertain, it may be wise to treat the seed annually or every second year, depending on the susceptibility of the variety.
- Canola should be treated with benomyl, carbathiin or iprodione to control the seed borne phase of blackleg.
- Alfalfa seed is treated to control verticillium wilt.

Insecticidal seed treatments will prevent or reduce the damage from certain crop pests.

- Crops on newly broken land, or cereals on fields with previous wireworm damage should be treated with an insecticide formulation. For a lasting effect the treatment should be done over two consecutive years.
- Canola and mustard can be protected against flea beetles by lindane formulations. Granular insecticides offer extended protection.

The treatment of cereal seed with fungicides and fungicide-insecticide combinations has increased in recent years. Up to 90 per cent of soft white spring wheat and canola, 30 per cent of barley and 10 per cent of spring wheat is treated annually. Seed treatment is used much less in the northerly growing areas of the province.

Methods of seed treatment

Custom treatment

Fungicides are applied to the seed some time before planting. Seed cleaning plants are equipped to treat seed with liquid fungicides. Farmers can use a variety of methods for both liquid and dry formulation application.

Drill box treatment

Seed is treated directly in the drill box. Fungicide and seed are layered and then mixed thoroughly. This avoids the problem of storing treated seed or treating more seed than necessary for planting.

Fungicide treatment costs

All treatments for cereals and flax are generally not more than $1.00 per acre.

Fungicide-insecticide treatment costs

Combination treatments for cereals, flax, canola and mustard cost around $2.00 per acre. Granular insecticides cost $5.00 per acre.

Precautions

- READ and FOLLOW label directions carefully.
- TREATED seed must not be allowed to contaminate grain intended for food, feed or commercial use. BURY left-over treated seed or store it safely in labelled bags for future use as seed.
- TREATED seed offered for sale must be labelled with the name of the treatment chemicals (Canada Seed Act).
- TREATED seed in transit must be bagged or bulk loads tarped to prevent spillage (Alberta Agricultural Chemicals Act).

Copies of this and related publications may be obtained from the Print Media Branch, Alberta Agriculture, 7000 - 113 Street, Edmonton T6H 5T6 or Alberta Agriculture's District Offices.

REGISTERED[1] SEED TREATMENTS FOR CEREAL, FORAGE, OILSEED AND PULSE CROPS IN CANADA, 1990

Trade Name	Common Name[2]	Registrant	Form[3]	Registered Use[4]
FUNGICIDES				
Anchor	carbathiin:thiram	Uniroyal	Su	flax, wheat, oats, barley, rye, triticale, soybeans
Formalin	formaldehyde	U.A.P.	Sn	wheat, oats, barley
Agrox N-M	maneb	ICI Chipman	Du	flax, wheat, oats, barley, rye, sugar beets
Agrox FL.	maneb	ICI Chipman	Su	wheat, oats, barley, rye
IPCO N-M Drill Box	maneb	IPCO	Du	flax, wheat, oats, barley, rye, sugar beets
Vitavax Powder	carbathiin:thiram	Uniroyal	Du	flax, wheat, oats, barley, rye, soybeans
Vitavax Single Solution	carbathiin	Uniroyal	Sn	flax, wheat, oats, barley, rye
Thiram 75WP	thiram	Uniroyal	Du	alfalfa, grasses, beans, corn, mustard, peas, soybeans, sugar beets
Captan FL	captan	ICI Chipman	Su	beans, corn, peas, soybeans, sugar beets
INSECTICIDES				
Counter[5]	terbufos	Cyanamid	Gr	canola, mustard
Furadan[5]	carbofuran	Chemagro	Gr	canola, mustard
FUNGICIDE/INSECTICIDE DUAL PURPOSE (DP) FORMULATIONS				
Benolin-R[6]	benomyl:thiram: lindane	IPCO	Du	canola
Premiere FL	thiabendazole: thiram:lindane	ICI Chipman	Su	canola, mustard
Rovral ST[6]	iprodione:lindane	Rhone - Poulenc	Su	canola
Thiralin-Plus[6]	benomyl:thiram: lindane	Rhone - Poulenc	Du	canola
Vitavax RS Flowable[6]	carbathiin:thiram: lindane	Uniroyal	Su	canola, mustard
Vitavax RS Powder[6]	carbathiin:thiram: lindane	Uniroyal	Du	canola, mustard
Agrox D-L Plus	captan:diazinon: lindane	ICI Chipman	Du	beans, corn, peas, soybeans
Agsco DB - Green	maneb:lindane	Agsco	Du	wheat, oats, barley, rye
IPCO N-M Dual	maneb:lindane	IPCO	Du	wheat, oats, barley, rye
Mergamma FL.	maneb:lindane	ICI Chipman	Su	wheat, oats, barley, rye
Mergamma N-M	maneb:lindane	ICI Chipman	Du	wheat, oats, barley, rye
Trinox	maneb:lindane	R. Carlson Co., Inc.	Du	flax, wheat, oats, barley, rye
Vitavax Dual Powder	carbathiin:thiram: lindane	Uniroyal	Du	flax, wheat, oats, barley, rye
Vitavax Dual Solution	carbathiin:lindane	Uniroyal	Sn	wheat, oats, barley, rye

[1] *Registered under the Pest Control Products Act (Canada) and available in Alberta.*

[2] *Most of the fungicides are disinfestants and protectants. Carbathiin is systemic and the only registered chemical that can control true loose smut of wheat and barley, and stem smut of rye.*

[3] *Sn - solution, Su - suspension, Du - dust or wettable powder, Gr - granule.*

[4] *rates for each crop are listed on the label.*

[5] *Counter and Furadan are granules and not true seed treatments but are applied with the seed.*

[6] *Products containing benomyl, carbathiin, iprodione or thiabendazole will control blackleg on the seed of canola.*

For detailed information on the above products see ***Guide to Crop Protection in Alberta***, Part I - Chemical.

Information prepared by I.R. Evans, Crop Protection Branch.

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